

REMARKS

Introduction

Claims 1-24 are pending in the present application. In an April 19, 2007 Office Action (hereinafter "Office Action"), Claims 1 and 13 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter as lacking a practical application. Claims 7, 8, 9, 10, 11, and 12 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Claims 1-10 and 13-22 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,272,074 issued to Winner et al. (herein "Winner"). Claims 11-12 and 23-24 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Winner and in further view of U.S. Patent No. 6,369,840 issued to Barnett et al. (hereinafter "Barnett"). For the following reasons, applicant respectfully submits that Claims 1-24 are not anticipated by Winner and are non-obvious over Winner in view of Barnett because the cited references alone, or in combination, fail to teach or suggest filtering a recurrence event identifying items that match a search criteria defined by the user.

Pursuant to 37 C.F.R. § 1.111, and for the reasons set forth below, applicant respectfully requests reconsideration and allowance of the pending claims. Prior to presenting the reasons why applicant believes that all the pending claims are in condition for allowance, a brief summary of the present invention, as well as the cited references, are presented. However, it should be appreciated that the following summaries are presented solely to assist the Examiner in recognizing the differences between the pending claims and the cited references, and should not be construed as limiting upon the present invention.

Summary of the Present Invention

Aspects of the present invention enable the storage of recurrence events in a single database record while allowing filtering of the recurrence events. In this regard, the present invention enables filtering of recurrence events by obtaining a data set of exceptions, identifying exceptions that are not contained in the filtered data set, and creating a new data set of filtered items. Instead of generating output for transmission to the user based on a filtered data set, the new data set of filtered items is used to generate the output that will be displayed to the user. This enables software such as calendar software to minimize the amount of data stored in a database that is ultimately transmitted between remote computing devices. In one embodiment, the present invention supports filtering of recurrence events and exceptions to recurrence events that is managed by calendar software. The calendar software is web-based and includes a database located on a server computing device that receives requests for calendar items and other filtered data from a client computing device associated with a user.

Summary of Winner

Winner is purportedly directed to providing an electronic calendaring and scheduling capability that minimizes storage requirements. Users are allowed to define recurring calendar items based on an expression that is stored in a single database record. As a result, a user may define an infinite number of recurrence events from the original event definition. Moreover, by storing recurrence events in single database records, the storage requirements needed to store an event in a distributed computer environment are minimized. The Winner system utilizes a recurrence expression for the purpose of storing recurrence events in the database. These recurrence expressions may include one or more anti-event expressions that are used to generate one or more exception dates that cancels at least one of the recurrence dates. These anti-event expressions are stored in the same database record as the original recurrence event.

Summary of Barnett

Barnett is purportedly directed to an online calendaring and purchasing system based on user selected events. The user may select categories of interest and then select individual events within those categories. A user-specific calendar is provided that displays events selected by the user. Moreover, calendars may also be shared among a number of selected users. In this regard, online purchasing and related actions can be associated with each event.

Claim Rejections Under 35 U.S.C. § 101

Claims 1 and 13 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter as lacking a practical application. The independent Claims 1 and 13 have each been amended to identify the processes that occur in instances when a filter is not utilized in retrieving information to overcome the 35 U.S.C. § 101 objection to Claims 1 and 13.

Claim Rejections Under 35 U.S.C. § 112

Claims 7, 8, 9, 10, 11, and 12 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Similar to Claims 1 and 13, the Office Action rejected these claims for failing to identify processes that occur in instances when a filter is not utilized. As mentioned previously, the independent Claim 1 from which Claims 7, 8, 9 and 10, 11, and 12 depend has been amended in order to more clearly specify the processes that occur when a filter is not utilized. Since each of these dependent claims include each element from the independent Claim 1, applicant submits that these dependent claims are also in a condition to overcome the 35 U.S.C. § 112 rejection.

Claim Rejections Under 35 U.S.C. §102

Claims 1 and 13

The Office Action rejected Claims 1 and 13 under 35 U.S.C. § 102(e) as being anticipated by Winner. The Office Action asserts that Winner discloses each of the elements of applicant's claims. Applicant respectfully disagrees. As described in more detail below, the cited reference fails to disclose or suggest certain elements of these independent claims. For purposes of this discussion, independent Claims 1 and 13 of the present application will be discussed together because the same distinguishing elements over Winner are recited in each of these claims. Claim 1 recites the following:

A computer-implemented method of filtering recurrence events comprising:

in response to receiving a request to display a recurrence event in a computing device, determining if a filter for identifying items that match a search criteria defined by the user is required to satisfy said request, wherein said recurrence event is represented in a database in a single database record;

if a filter is required to satisfy said request:

creating a data set that is stored in the memory of the computing device related to said recurrence event consisting of filtered items and exceptions;

structuring said data set of filtered items and exceptions for display on the computing device, wherein structuring said data set includes expanding said recurrence event from the single database record;

conversely, if a filter is not required to satisfy said request:

creating a data set that is stored in the memory of the computing device related to said recurrence event consisting of filtered items, recurrence events, and exceptions; and

structuring said data set of filtered items, recurrence events, and exceptions for display on the computing device, wherein structuring said data set includes expanding said recurrence event from the single database record.

Similarly, Claim 13 recites the following:

A computer-readable medium bearing computer-executable instructions which, when executed, carry out a computer-implemented method of filtering recurrence events comprising:

in response to receiving a request to display a recurrence event in a computing device, determining if a filter for identifying items that match a search criteria defined by the user is required to satisfy said request, wherein said recurrence event is represented in a database in a single database record;

if a filter is required to satisfy said request:

creating a data set that is stored in the memory of the computing device related to said recurrence event consisting of filtered items and exceptions;

structuring said data set of filtered items and exceptions for display on the computing device, wherein structuring said data set includes expanding said recurrence event from the single database record;

conversely, if a filter is not required to satisfy said request:

creating a data set that is stored in the memory of the computing device related to said recurrence event consisting of filtered items, recurrence events, and exceptions; and

structuring said data set of filtered items, recurrence events, and exceptions for display on the computing device, wherein structuring said data set includes expanding said recurrence event from the single database record.

Generally described, the pending claims in the present application and Winner are directed at two fundamentally different software systems. In this regard, the Winner system provides an electronic calendaring and scheduling capability that allows users to create recurrence events. Calendar events are stored as single entries using an expression language that provides the ability to identify exceptions to the recurrence events from data stored in the same record. Thus, Winner is directed at allowing a user to create and retrieve calendar events. In contrast, aspects of the present invention are directed at filtering recurrence events in order to identify items that match the search criteria defined by the user. In this regard, the present

invention enables filtering of recurrence events by obtaining a data set of exceptions, identifying exceptions that are not contained in the filtered data set, and creating a new data set of filtered items. For example, aspects of the present invention allow a user to input search criteria (e.g., identify all calendar events that are associated with a particular document) and have all of the calendar events that match the search criteria returned in response to the query, including recurrence events. In contrast, Winner merely allows a user to create and/or view recurrence events. The ability to filter recurrence events by identifying events that match search criteria is not disclosed. In this regard, aspects of the present invention are an improvement to systems such as Winner. Using aspects of the present invention, users will now be able to filter these events in ways that have not previously been provided.

More specific to independent Claims 1 and 13, Winner does not teach or suggest "determining if a filter for identifying items that match a search criteria defined by the user is required to satisfy said request," and "if a filter is required to satisfy said request, creating a data set related to said recurrence event consisting of filtered items and exceptions," as recited in independent Claims 1 and 13. The Office Action asserts that Winner teaches "determining if a filter is required to satisfy said request," and cites Winner at column 4, lines 40-44, in support of that proposition. In its entirety, the cited portion of Winner states:

The scheduler process retrieves the request and sends the message via the network transportation to remote scheduling servers. It requests particular calendar data from the servers. The scheduler process obtains the data, compares the calendar data, and sets the event in the calendars of the attendees when an appropriate event period is determined.

(Winner at column 4, lines 37-44.)

This section of Winner referenced in the Office Action describes a process for creating a calendar event in a distributed network environment. The calendar event is created automatically depending on when the scheduled attendees are available. In this regard, data is obtained in

order to determine when an event may be created at a time in which the multiple attendees do not have another competing event. By contrast, Claims 1 and 13, as amended in the present application, include the recitation of "determining if a filter for identifying items that match a search criteria defined by the user is required to satisfy said request" Applicant respectfully submits that creating a calendar event in a distributed network environment as taught in Winner is not equivalent to determining if a filter for identifying items that match a search criteria defined by the user are associated with a recurrence event. As mentioned previously, the use of a filter for identifying events requested by the user may be used in conjunction with the system that allow users to create recurrence events and exceptions to recurrence events in calendar software.

The Office Action further asserts that Winner teaches creating a data set related to said recurrence event consisting of filtered items and exceptions as recited in independent Claims 1 and 13. In support of that proposition, the Office Action cites Winner at column 4, lines 45-54, which states:

An event is stored as a collection of information in a storage means. In the preferred embodiment of the present invention, an event is a record or table of fields. FIG. 2 is a diagram illustrating an event according to the present invention. The drawing includes Field, Storage and Description headings. The Field column contains the elements 410A-410Q of the event 410 and the Storage column describes how the elements 410A-410Q are stored. The Description column provides a brief statement about the use of the element.

(Winner at column 4, lines 45-54.)

However, the cited portion of Winner merely describes a particular type of data structure that is used to store data related to a calendar event. The data structure includes the beginning and ending date of a calendar event as well as other descriptive information related to the event. By contrast, the recited elements in independent Claims 1 and 13 include "creating a data set

related to said recurrence event consisting of filtered items and exceptions." As described in the present application, creating the data set related to a recurrence event includes obtaining data from different locations and performing various set operations on filtered calendar items and exceptions. In this regard, the excerpted portion in the present application provided below describes how certain data sets are obtained and the operations performed on these different data sets that are performed for the purpose of "creating a data set related to said recurrence event consisting of filtered items and exceptions."

To enable filtering of recurrence events, the middle tier 200, in accordance with the present invention, obtains data set M 300 from the event database 200. In an exemplary embodiment, the middle tier 202 receives a request from client computing device 102A and determines if the request requires a filter. If the request requires a filter, the filtered recurrence module 204 generates a SQL query that is passed to the event database 200. The SQL query generated by the filtered recurrence module 204 requests all exceptions for the time frame of the request without applying a filter (hereinafter "unfiltered exceptions"). In response to the SQL query, event database 200 passes data set M 300 to the middle tier 202. Since generating a SQL query that requests unfiltered exceptions is generally known in the art, such a process is not described here.

The present invention next uses data set M 300 and data set N 310 to generate a new data set that is sufficient to filter recurrence events. With reference to FIGURE 3, data set M 300 and data set N 310 obtained from the event database 200 are used to construct two additional data sets that enable filtering of recurrence events. Specifically, the filtered recurrence module performs a set difference operation on data set M 300 and data set N 310 to obtain data set O 318. The set difference operation identifies all exceptions that exist in data set M 300 that do not exist in data set N 310. As described above, data set M 300 consists of unfiltered exceptions for the time frame of the request received from the user. Data set N 310 consists of filtered events, recurrence events, and exceptions corresponding to the same time frame. Thus, the set difference operation identifies exceptions that were not included in data set N 310 because of a filter. In the exemplary embodiment illustrated in FIGURE 3, EXCEPTION A1 302, EXCEPTION B1 306, and EXCEPTION B2 308 were excluded from data set N 310 because of a filter and, as a result, are included in data set O 318. (Present application at page 10, lines 3-23.)

As the excerpts above illustrate, creating the data set of filtered items and exceptions includes gathering data from different locations and performing a number of mathematical functions including "a set difference operation." Applicant respectfully submits that creating a particular type of data structure that is used to store data related to a calendar event as taught in Winner is not equivalent to creating a data set of filtered items and exceptions as taught in the present application. For at least the above-mentioned reasons, applicant submits that Winner does not teach all of the claim elements recited in Claims 1 and 13.

Under 35 U.S.C. § 102, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) (February 2003.) Applicant respectfully submits that Winner fails to expressly or inherently teach, disclose, or suggest each and every element of Claims 1 and 13. As explained above, Winner fails to disclose or suggest the combination of determining if a filter for identifying items that match a search criteria defined by the user is required to satisfy a request, among other claim elements. Accordingly, applicant respectfully requests withdrawal of the pending rejection with regard to Claims 1 and 13.

Claims 2-10 and 13-22

Claims 2-10 depend on independent Claim 1. Similarly, Claims 14-22 depend on independent Claim 13. As discussed above, Winner fails to teach all of the elements of independent Claims 1 and 13. Accordingly, for the above-mentioned reasons, Claims 2-10 and 14-22 are also allowable over Winner. Additionally, these claims are not anticipated by Winner for additional reasons, some of which are discussed in further detail below.

Claims 5 and 17 include the elements of "identifying exceptions that are not included in the exceptions included in the data set of filtered items by applying a set operation on the data set

of exceptions and the data set of filtered items." More specifically, as stated in the present application, a set operation on two data sets may identify all exceptions to a recurrence event that exist for a particular time frame. The set difference operation identifies exceptions that were not retrieved from the database because a filter was applied to these exceptions. Applicant is unable to find any reference in Winner to applying filters to recurrence events. Moreover, applicant is unable to find any reference in Winner to applying set operations to different data sets in order to identify exceptions that are not included in the data set of filtered items. Since the Winner system does not perform set operations to identify exceptions that are not included in the data set of filtered items, Winner in no way teaches the additional elements that are recited in Claims 5 and 17.

Claims 8 and 20 recite the additional elements of "performing a computer-implemented set difference operation between the exceptions and the database of filtered items." The Office Action asserts that Winner teaches performing a computer-implemented set difference operation between the exceptions and the data set of filtered items and cites col. 10-11, lines 58-18, of Winner in support of that proposition. The cited portion of Winner discloses using recurrence expressions to define "anti-events." The cited portion of Winner in no way teaches performing a set operation. Accordingly, Winner fails to teach or suggest the additional element recited in Claims 8 and 20. Thus, applicant asserts that these claims are also allowable for this additional reason.

Claim Rejections Under 35 U.S.C. § 103(a)

The Office Action rejected Claims 11-12 and 23-24 as being obvious over Winner in view of Barnett. The Office Action asserts that the cited references disclose each of the elements of these claims, and that it would have been obvious to a person of ordinary skill in the art to combine the teachings of the cited references at the time the invention was made. Because a

dependent claim carries each and every limitation of the claim it depends on, the references, either alone or in combination, fail to teach or suggest each of the limitations as discussed above. Applicant further submits that the additional cited reference fails to address the deficiencies associated with Winner. Accordingly, for this reason, applicant respectfully submits that the rejection of Claims 11-12 and 23-24 are in error and request that it be withdrawn.

CONCLUSION

In view of the remarks above, applicant respectfully submits that the present application is in condition for allowance. Reconsideration and reexamination of the application and allowance of the claims at an early date is solicited. If the Examiner has any questions or comments concerning this matter, the Examiner is invited to contact the applicant's undersigned attorney at the number below.

Respectfully submitted,

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